June 2000

Traffic Engineering and Highway Safety Bulletin

MILITARY TRAFFIC MANAGEMENT COMMAND TRANSPORTATION ENGINEERING AGENCY
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FREE HELP FROM MTMCTEA

The Military Traffic Management Command Transportation Engineering Agency (MTMCTEA) now offers FREE services to help Department of Defense (DOD) installations identify their problem traffic locations and propose solutions. If your installation needs a study performed to:

- Analyze a fatal crash
- Analyze a high accident location, or
- Accomplish a safety audit of installation roads

MTMCTEA will provide this service TOTALLY FREE to the installation.

In FY99 the Federal Highway Administration (FHWA) provided $500,000 to fund these studies. MTMCTEA selected the Army's Forces Command (FORSCOM) to conduct a pilot program. We conducted studies at six FORSCOM installations with emphasis on providing low-cost solutions to high accident locations (HALs). Because of the success of the pilot program, the FHWA provided an additional $500,000 to continue the program in FY00. We are now offering all military Services the opportunity to participate in the program.

Fatal Crashes

High
Accident
Locations

MTMCTEA STUDIES

especially those involving HALs. We perform many types of studies with an emphasis on low-cost improvements that are immediate or short-term and yield high benefits to their implementation costs. Generally, the studies conducted include:

- Fatal crash analysis
- Safety audits
- High accident locations
- Traffic engineering
- Traffic impact (such as BRAC)
- Access roads
- Force protection
- Signal operations

The studies are short and have a new appearance with color photographs to illustrate conditions.

Our engineers focus on efficiency, delivering a good product to the Services, getting things implemented, and time and cost avoidance. If your installation needs a study performed, MTMCTEA can help you by either one of the most frequently used methods below:

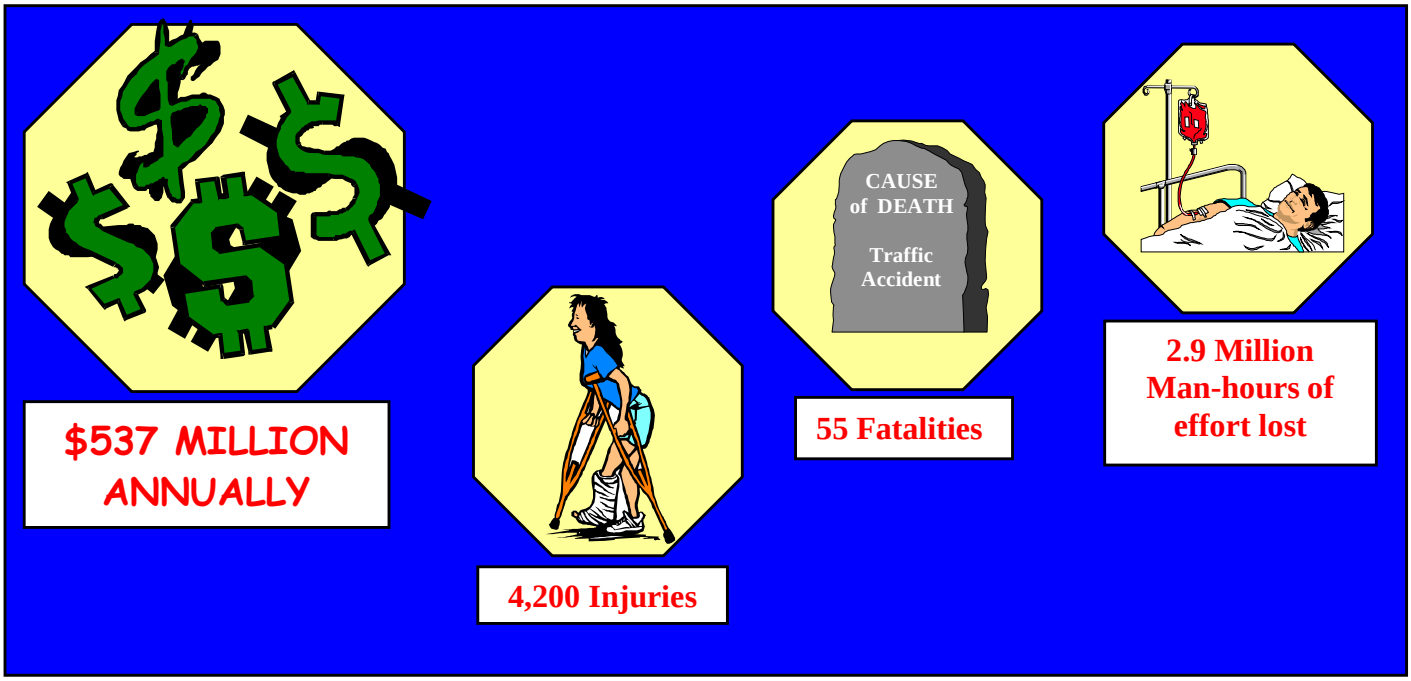
➢ **Pre-paid Contract Studies (discussed on page 1)** - These studies generally involve one or more HALs and a safety audit. A HAL is any location with five or more property-damage-only, three or more injuries, or one or more fatal accidents in a 12-month period. We have an AE Consultant performing these studies for us. The studies are usually performed in one week. A draft report is provided at the AE outbrief to the installation commander and engineering, safety, and security officials. We review AE studies for technical content and resulting recommendations. With FHWA funds, we pay the AE Consultant for their services. There are no installation funds involved for the study. If the installation commits to study recommendations and funding the improvements, then FHWA funds can also be used for design.

➢ **In-and-Out Studies** - These studies are of limited scope where the installation advises us of their most pressing problem locations and intersections, typically two or three problem areas. Generally, one engineer can perform two signalized intersections and one non-signalized intersection or a safety audit in a week. More issues or locations will require two or more people, and costs are affected accordingly. We provide recommendations to correct deficiencies, generally low-cost improvements that are within the realm of installation funding. The studies are usually performed in one week. A draft report is provided at the outbrief to the installation commander and engineering, safety, and security officials. The installation pays for travel, per diem, and any overtime. Study recommendations have high implementation rates compared to our former comprehensive or installation-wide studies because the installation focuses on key issues that need to be resolved with limited funds.

➢ **Comprehensive Studies** - These are installation-wide studies that we outsource to onboard AE Consultants. The AE produces the pre-final and final studies over several months. The installation pays for the study. We manage the study for the installation, such as scope of work preparation, scheduling, and technical review.

If you have any questions or want further details, please call or send us an e-mail message. We look forward to performing more work for each of the Services.

DOD ANNUAL ACCIDENT COSTS

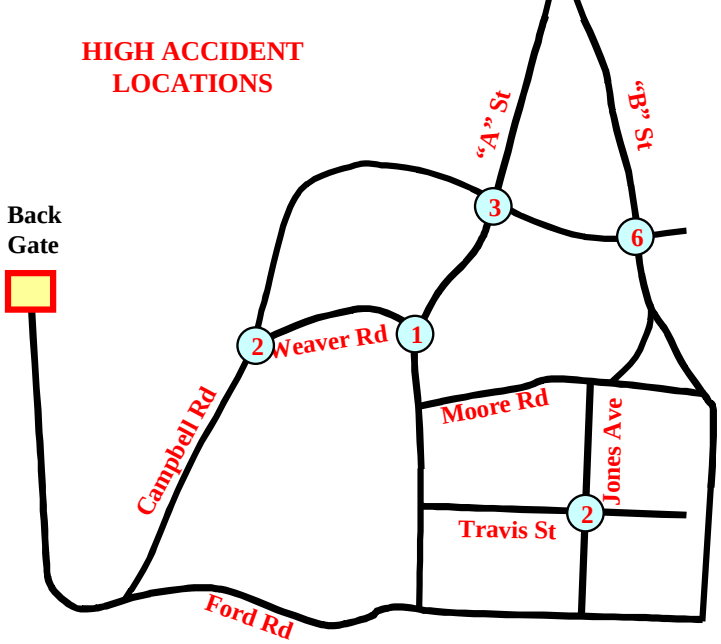


Highway crashes are the most significant of all traffic problems. Each year about 37,000 crashes occur on military installations. These crashes cause an estimated annual cost of $537 million, 55 fatalities, 4,200 injuries, and 2.9 million man-hours of lost time. Through proper traffic engineering, about 1,000 HALs in DOD could be improved. Traffic improvements in DOD have the potential to reduce the annual accident cost by $73 million, save 23 lives, and prevent more than 265 injuries.

Each crash occurring on DOD property, especially a serious one, introduces the potential for a damage claim against DOD. The basis for a claim can originate from any traffic accident, especially one that occurs at a known hazardous location.

Officials at MTMCTEA are placing increased emphasis on a program to make roads safer through engineering improvements. The basis of the program is to achieve the most economical use of DOD funds, in terms of accident reduction, by seeking out and improving HALs.

HIGH ACCIDENT LOCATIONS

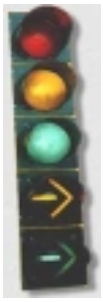


*ON THE ROAD TO IMPROVEMENT

GOOD, BETTER, BEST

The condition of the road is a factor in an estimated 30 percent of traffic fatalities, according to The Road Information Program (TRIP), and improvements can make a big difference.

Improvements	Reduced the Fatality Rate
Intersection:	
▪ **Sight distance improvements**	**56%**
▪ **New traffic signals**	**53%**
▪ **Turning lanes and rechanneling traffic**	**47%**
Bridge:	
▪ **New bridge**	**86%**
▪ **Upgrade bridge rail**	**75%**
▪ **Widening a bridge**	**49%**
Surface:	
▪ **Realign roadway**	**66%**
▪ **Groove pavement for skid treatment**	**33%**
▪ **Widen or improve shoulder**	**22%**
Lane Separation:	
▪ **Construct median for traffic separation**	**73%**
▪ **Upgrade median barrier**	**66%**
▪ **New median barrier**	**63%**



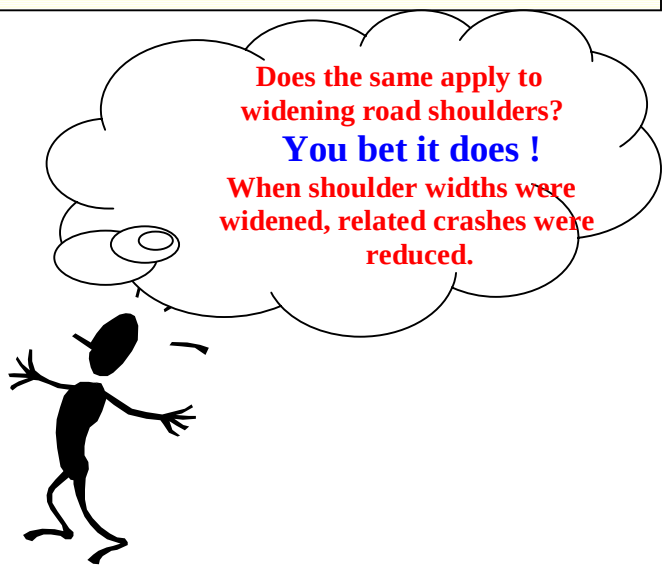
The Skinny On Lane Width

Many two-lane roads, which represent more than 75 percent of the entire national road network, were designed before current safety guidelines were developed. Consequently, crashes often have more serious consequences, and the death rate is high.

Optimum lane width is 12 feet, but any widening of narrow lanes goes a long way toward making roads safer. Results of a study done several years ago for the FHWA by the University of North Carolina Highway Safety Research Center in Chapel Hill, are shown in the table to the right.

Widening a Lane By	Can Lower Related Crash Incidence By
One foot	12%
Two feet	23%
Three feet	32%
Four feet	40%

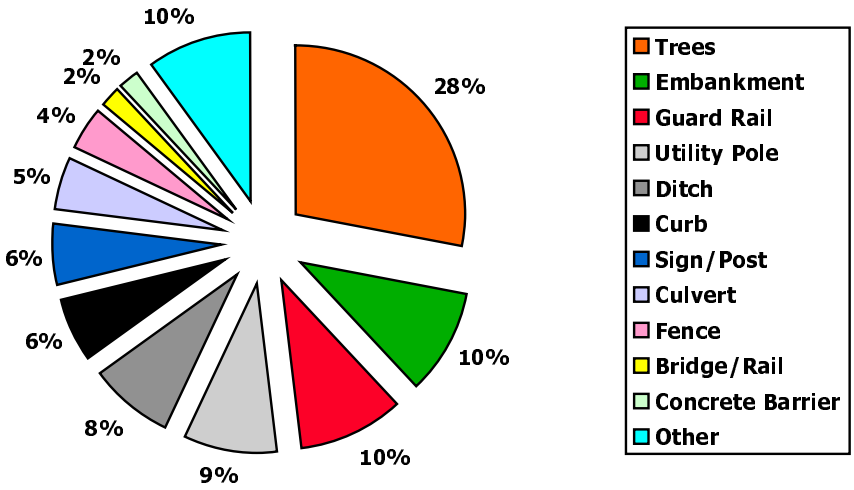
Widening Per Side	Resulted Paved	Reduction Unpaved
One foot	16%	13%
Two feet	29%	25%
Three feet	40%	35%
Four feet	49%	43%



Watch Out For Those Trees

"An average of 12,000 people die each year in collisions with roadside hazards, such as trees, utility poles, and embankments," says Kathy Hoffman of the Roadway Safety Foundation. Almost another 3,500 die in rollover crashes often related to veering off the road.

The graph on the right shows what percent of various roadside hazards were involved in traffic fatalities in 1998.



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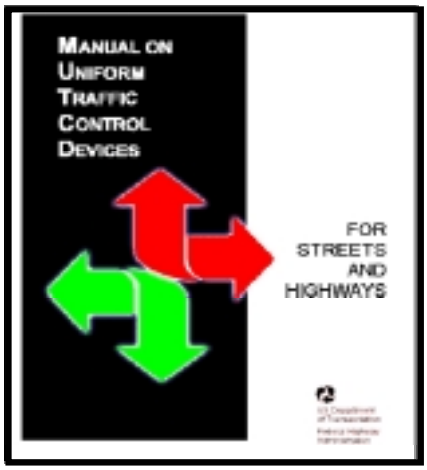
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) MILLENNIUM EDITION

The MUTCD Millennium Edition will be published as a Federal Register final rule in December 2000. The new MUTCD will be printed and distributed in 2001 in 3-ring binders for easy updating. Also, it will be available on CD-ROM and on the Internet. Traffic control devices are the signs, markings, and signals along streets and highways that communicate information that helps road users travel safely. As more of us take to the highways and byways in the 50 States, a standardized system has evolved to regulate, warn, and guide road users.

The purpose of the MUTCD is to optimize traffic performance, promote uniformity, and help improve safety by reducing the number and severity of traffic crashes.

The MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets and highways. The MUTCD is published by the FHWA under 23 Code of Federal Regulations (CFR), Part 655, Subpart F. DOD Directive No. 4510.11 on DOD Transportation Engineering requires that DOD highway facilities comply with Federal standards.



Although the MUTCD is routinely updated to include amendments that clarify new standards and incorporate technical advances, it has been more than 20 years since the manual was entirely rewritten, and the most recent edition was published in 1988. The FHWA has worked closely with its public and private sector partners in the rewrite effort. The Millennium Edition is completely reformatted to improve the overall organization and discussion of the MUTCD content. The MUTCD audience encompasses more than the highway community.

In the public sector, State and local transportation planners and engineers use the MUTCD in designing our roads and locating the traffic control devices that help drivers navigate safely. There are public works department employees who must understand how to install and maintain the traffic control devices. The FHWA conducts extensive materials research, often in cooperation with the private sector designers and developers, to improve the effectiveness and visibility of traffic control devices. Law enforcement personnel rely on the MUTCD as they monitor driver behavior and investigate traffic incidents.

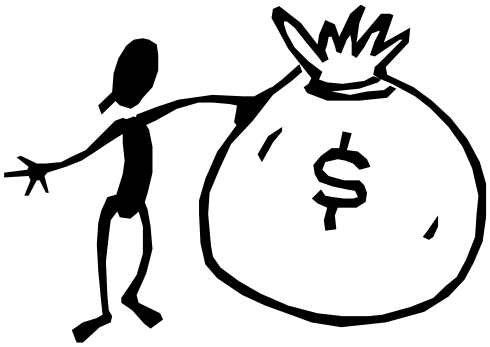
In the private sector, construction and engineering contractors rely on the MUTCD to build the roads we travel. Private business ventures design, test, manufacture, and market the traffic control devices that road managers apply and install. The insurance and legal communities frequently refer to the MUTCD when investigating claims or proceeding with legal action that arise from traffic-related incidents.

GET YOUR FREE MUTCD MILLENNIUM EDITION

For all those returning a completed Installation Survey Form, MTMCTEA will supply the installation a FREE copy of the Millenium Edition of the MUTCD (approximate value $100)

$$$ FOR YOUR ROAD CONSTRUCTION

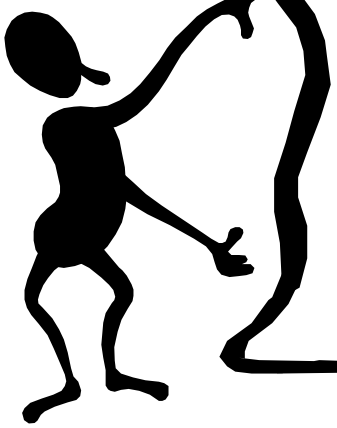
MTMCTEA, through our Highways for National Defense program responsibilities, is developing justification to attain Federal Highway Trust Funds to improve DOD roads. We have a strong case to create a program for military installation roads (MIR), through the collection of data submitted by installations via the attached **Installation Survey Form**. We are updating our data to justify a MIR program in the next highway legislation (required in FY04). The data requested on the **Installation Survey Form** is critical to this effort; accordingly, your response to this data request is very important. If MTMCTEA is successful, Federal Highway Trust funds could be made available for use on military installations to eliminate crashes.



We base the MIR program on the high benefit-to-cost ratio of eliminating high crash location causes. In addition, because of business and recreational travel on military installations, MTMCTEA believes that it is time for the military to receive their fair share of Highway Trust Fund money, which is generated through Federal gasoline taxes.

The FHWA disperses Highway Trust Fund money to the states for major highway construction and maintenance. One of the Highway Trust Fund categories is called the Public Lands Highway Program. Through this program, a number of Federal Lands Agencies, such as the National Park Service, Forest Service, and Fish and Wildlife Service are provided funds for highway construction and maintenance on their roads that are open to public travel. Help us get our fair share of the Highway Trust Fund money by completing the enclosed **Installation Survey Form**.

Because we appreciate your assistance in filling out the form, each installation that returns a form will receive a free millenium edition MUTCD.



Applicable installations should provide a completed copy of the survey to MTMCTEA by 31 July 2000. All installations, within the U.S. and its territories, having a working population of 1,000 or more – military and civilian – are required by regulation (AR 55-80/OPNAVINST 11210.1B/MCO 11210.2C/DLAR, 4500.19, 15 December 1982, Highways for National Defense to complete the enclosed form. Appropriate installation officials who now coordinate traffic engineering matters should complete the form. Refer questions to any MTMCTEA Highway Engineer. The completed form may be mailed or faxed to MTMCTEA.

TRAFFIC ENGINEERING TRAINING SEPTEMBER – DECEMBER 2000

The Transportation Engineering Division, Northwestern University Traffic Institute, provides the following short courses. For more information call (800) 323-4011 or visit their Web site at www.nwu.edu/traffic/.

COURSE	DATE/TUITION	LOCATION
Traffic and Transportation Engineering Seminar	11-22 September - $1,250	Evanston, IL
Traffic Control Devices Workshop	2-3 October - $350	Phoenix, AZ
Legal Liability Workshop	4-6 October - $550	Phoenix, AZ
Geometric Design Workshop	9-20 October - $1,200	Evanston, IL
Traffic Calming: Basics and Beyond	23-25 October - $500	Evanston, IL
Traffic Signal Workshop	23-27 October - $700	Las Vegas, NV
Highway Capacity Workshop, Arterial Streets and Intersection	13-15 November - $600	Denver, CO
Intersection Design and Channelization Workshop	15-17 November - $500	Denver, CO

CONTACT US

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William J. Cooper, Director

TEA

"Turning Today's Visions into Tommorrow's Strengths"